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A NEW SPECIES OF *ELAPHOIDELLA* (CRUSTACEA: HARPACTICOIDA) CLOSELY RELATED TO *E. BIDENS* (SCHMEIL) AND THE GENUS *ATTHEYELLA* FROM NEPAL

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Abstract.—*Elaphoidella nepalensis,* n. sp., from a small stream in Kathmandu, Nepal, is described. The new species is closely related to *Elaphoidella bidens,* and the genus *Attheyella* since the species has two setae on the basoendopodite of the male fifth leg.

In a sediment sample from a small stream in the Botanical Garden of Kathmandu, the herein described new species, *Elaphoidella nepalensis* was found. Dr. Tomiko Ito (Hokkaido Fish Hatchery, Japan) collected the sample by scraping the bottom with a fine mesh hand net.

E. nepalensis, n. sp. is in many aspects very similar with *Elaphoidella bidens* (Schmeil) but differs from the latter by its caudal rami and by the peculiar ornamentation of the male fifth leg, bearing two elements.

Specimens were mounted in gum-chloral medium; drawings and measurements were made from the mounted specimens. Specimens were deposited in the U.S. National Museum of Natural History, Smithsonian Institution (USNM).

Order Harpacticoida Sars, 1903
Family Canthocamptidae Brady, 1880
Genus *Elaphoidella* Chappuis, 1929
Elaphoidella nepalensis, new species
Figs. 1–19

Material.—Holotype: female, dissected on 1 slide (USNM 259575). Allotype: male, dissected on 5 slides (USNM 259576). Paratypes: 1♂, (leg 4 and abdomen only), dissected on 2 slides (USNM 259577); 1♂, dissected on 1 slide (USNM 259578); 5♀♀, habitus, on 1 slide (USNM 259579); 20♀♀, in 70% ethanol (USNM 259580). All from a small stream in the Botanical Garden (alt. ca 1400 m), Godavari, Kathmandu, 11 May 1983.

Female.—Length of holotype excluding caudal setae 0.52 mm: range of lengths of 5 paratypes 0.52–0.67 mm. Cephalothorax (Fig. 1) with elongate planarian-shaped nuchal organ. All somites except anal somite with posterior margins serrated. All somites except cephalothorax with transverse rows of minute spinules (Fig. 13). Genital double somite with remnant of division beneath integument; genital field as in Fig. 2, reaching midlength of double somite. Two urosomites posterior to genital double somite (Figs. 1, 2) each with one row of long spines on ventral and lateral margin; 3rd urosomite also with grouped fine spines in middle of ventral surface. Anal somite (Fig. 2) without spines near the posteroventral margin; anal operculum (Fig. 3) with 18 spines, slightly convex. Caudal ramus (Figs. 1, 2, 4) about 1.7 times longer than broad, subrectangular, with dorsal, terminally hooked longitudinal keel extending over ⅔ of the length of ramus. Ramus with basally biarticulate dorsal seta inserted near end of keel, two lateral setae, a transverse row of three spines ventrolaterally, group of slender spines distal to medial lobe, and three terminal setae. Median terminal seta inserted a little above outer and inner terminal setae,

lacking proximal breaking plane, basally expanded, and about 1.3 times longer than urosome. Outer distal seta (Fig. 2) slender, with bulbous base. Inner terminal seta naked, slightly longer than half the outer one.

Rostrum very small, with two sensilla. Antennule (Fig. 5) of eight articles, article 4 with long esthetasc reaching past end of antennule, article 8 with short and slender esthetasc. Antenna (Fig. 6) biarticulate. Exopodite uniarticulate bearing four setae. Palp of mandible (Fig. 7) biarticulate. Proximal article with a single seta. Distal article with four terminal setae and one lateral seta.

Legs 1–4 (Figs. 8-11) with triarticulate exopodites; endopodite of leg 1 triarticulate, longer than exopodite; endopodites of legs 2–4 biarticulate. Setal formula as follows:

Leg 1	basis 1-1	exp 0-1; 1-1; 0,2,2
		enp 1-0; 1-0; 0,2,1
Leg 2	basis 0-1	exp 0-1; 1-1; 1,2,2
		enp 1-0; 2,2,1
Leg 3	basis 0-1	exp 0-1; 1-1; 2,2,2
		enp 1-0; 3,2,1
Leg 4	basis 0-1	exp 0-1; 1-1; 2,2,2
		enp 1-0; 2,1,1

Couplers of legs 1 and 2 with row of spines on each side; those of legs 3 and 4 with smooth surfaces.

Leg 5 (Fig. 12), inner expansion of basoendopodite reaching ⅓ length of exopodite, with four setae; edge of inner expansion produced into denticles between first and second and second and third setae (commencing at medial margin). Exopodite with five setae of which outer lateral two setae are short and next to innermost seta longest. Leg 6 (Fig. 2) consisting of protrusion bearing two plumose setae.

Male.—Length of allotype 0.47mm, of paratypes 0.42 and 0.43 mm. Body form similar to female. Second to 4th urosomal somites (Fig. 13) with one row of long spines on ventral and lateral margin. Anal somite (Fig. 13) with one or two spines near posteroventral margin above each caudal ramus. Caudal ramus (Fig. 13) narrower posteriorly. Lateralmost terminal seta with slightly bulbous base.

Legs 1, 2, and leg 4 exopodites similar to those of female. Leg 3 (Fig. 16) exopodite, major lateral spines of article 1, 2, thick; endopodite triarticulate, modified, spiniform process of article 2 slender to tip, seeming to lack hook, reaching only midlength of exopodite article 3, article 3 with two long apical plumose setae. Leg 4 endopodite (Fig. 17) article 2 shorter than that of female.

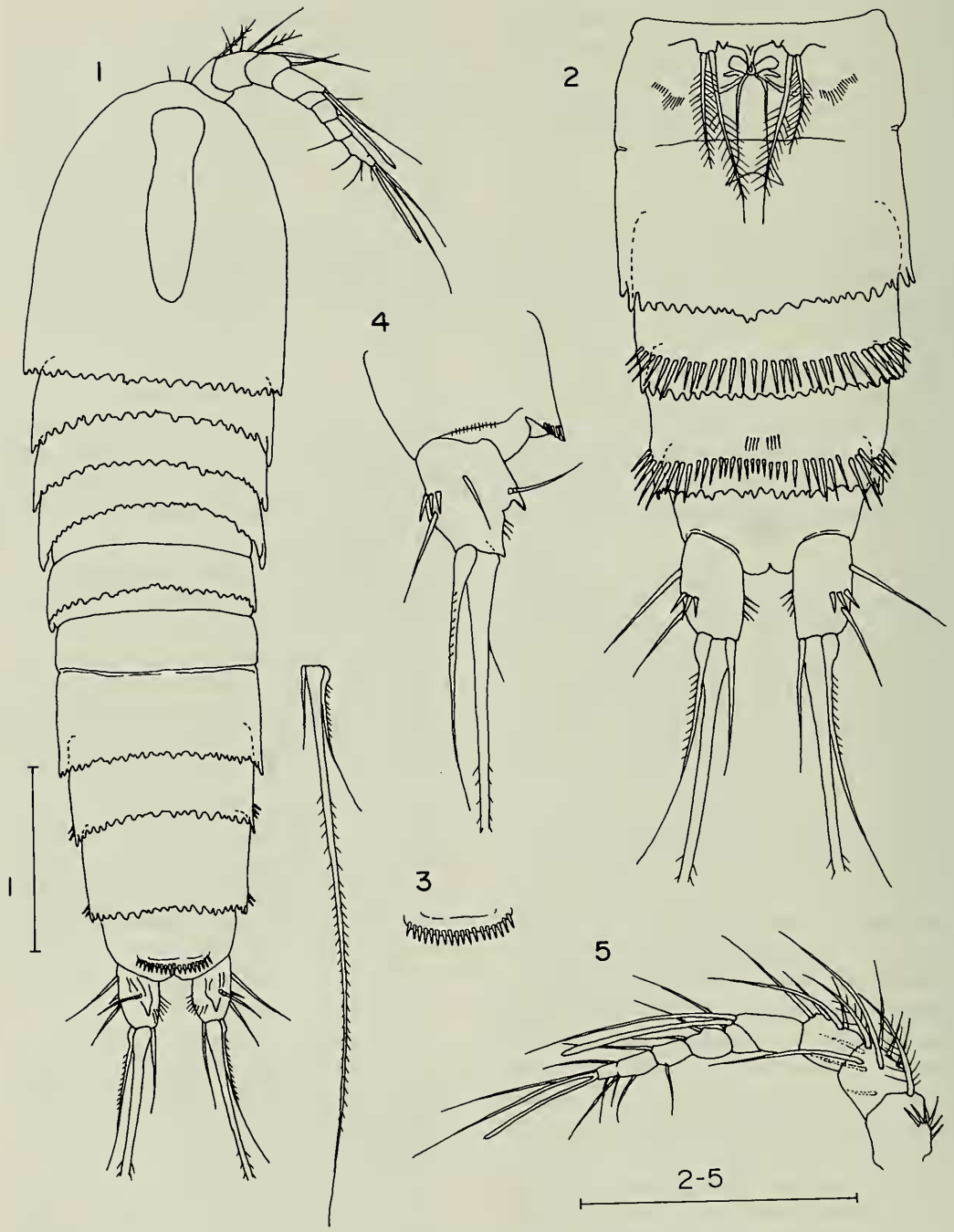
Leg 5 (Fig. 18) basoendopodite reduced, with two setae, inner one longer than outer one. Exopodite slightly longer than broad and bearing five setae. Leg 6 (Fig. 19) rudimentary forming posterior margin of somite, only one seta on each side, setae of different lengths.

No variation was observed among specimens of either sex.

Etymology.—Specific name refers to its distribution in Nepal.

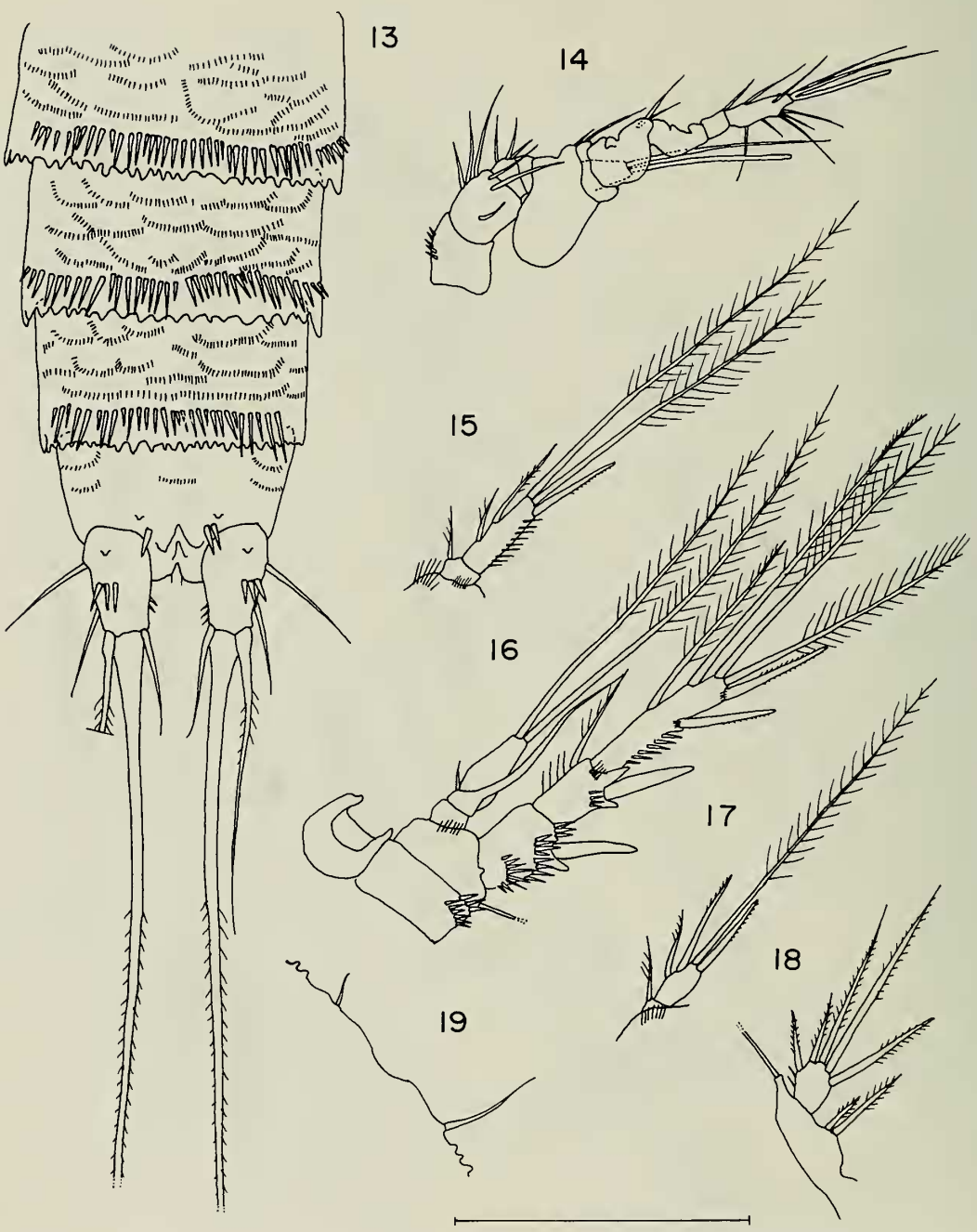
Affinities.—*Elaphoidella nepalensis,* n. sp. is most closely related to *E. bidens.* The morphological characteristics of the female specimens are the same as those of *E. bidens* s. s. and *E. bidens coronata* (Sars), except the leg 4 endopodite and the shape of the caudal rami (Chappuis 1931, Gurney 1932, Coker 1934, Lang 1948, Carter & Bradford 1972, Tai & Song 1979, Hamond 1987), and similar to *E. bidens decorata* (Daday), including the leg 4 and caudal rami (Chappuis 1931, Tai & Song 1979).

Differences between the two species exist in the male. Important diagnostic features of the male of the new species, in contrast to the male of *E. bidens* s. l. are the armament of the biarticulate endopodite of leg 4 which bears an inner seta on the proximal article and four setae or spines on the distal article (versus uniarticulate in *E. b. coronata* or biarticulate in *E. bidens* s. s. and *E. b. decorata* with two setae on the distal article, except *E. bidens* s. s. with four setae or spines on the distal article). Also, leg 5 basoendopodite bears two setae and the exopodite



Figs. 1–5. *Elaphoidella nepalensis,* n. sp., female, holotype: 1, Habitus, dorsal; 2, Abdomen, ventral; 3, Anal operculum; 4, Anal somite and caudal ramus, lateral; 5, Antennule. Scales = 100 μm.

Figs. 6–12. *Elaphoidella nepalensis*, n. sp., female, holotype: 6, Antenna; 7, Mandible; 8, Leg 1 and coupler; 9, Leg 2 and coupler; 10, Leg 3 and coupler; 11, Leg 4 and coupler; 12, Leg 5. Scale = 100 μm.



Figs. 13–19. *Elaphoidella nepalensis,* n. sp., male, allotype: 13, Abdomen except 1st urosomite, ventral; 14, Antennule; 15, Leg 2 endopodite; 16, Leg 3 and coupler; 17, Leg 4 endopodite; 18, Leg 5; 19, Leg 6. Scale = 100 μm.

bears five setae (versus naked basoendopodite and exopodite bearing four setae in *Elaphoidella bidens* s. l.) (Chappuis 1931, Dussart 1967, Carter & Bradford 1972, Tai & Song 1979, Reid & Ishida 1992). Among the already known *Elaphoidella* species, as far as I know, only *Elaphoidella caeca* Miura is equipped with two or three setae on the basoendopodite of leg 5 of the male (Miura 1964). However, this species is quite different from *E. nepalensis* in the formula for major armament of legs 2–4 and the rudimentary leg 5.

The genus *Elaphoidella* is closely related to *Attheyella,* and in particular *E. bidens* is close to *Attheyella crassa* (Sars) (Lowndes 1950). Leg 5 of the male of *E. nepalensis* is closer to that of *A. crassa* than to *E. bidens.* It can be said that the new species occupies a transitional position between the *Elaphoidella* and the *Attheyella.* The discovery of this species further confuses the generic distinctions within the Canthocamptidae, providing support for Hamond's (1987) statement that the family is in need of revision. Hamond returned several generic and subgeneric taxa including *Elaphoidella* to the synonymy of the genus *Canthocamptus* Westwood, 1836 s. l. pending eventual revision of the family Canthocamptidae. The revision must be comprehensive, and until then, I employ the more familiar genus name.

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